Project c+ (4) Hands up, who's been a naughty boy then? I am referring, of course, to your 'C+' project. In fact I was just about to order 400 m of expensive Ethernet cable when I suddenly realised that I was reading the April issue of Elektor which arrived around April 1st. Nice try, but pulse cannot travel backwards in time, otherwise consider what would happen if you used the leading edge of the received pulse to gate off the pulse generator before the bandpass filters. In that case the pulse would not be sent. If it is not sent then one would not be received at the other end and so there would be nothing to stop the pulse being generated and therefore…

Hang on, I can feel a paradox coming on. Thanks for a great mag though — keep 'm coming.

A. Brammer (psn: Dr. Who)

Glad you did appreciate our April spoof in the end. Discusson closed!

DIY Through-Hole Plating Dear Sir, first let me congratulate you on the new look Elektor. I have been a reader for many years and it is good to see that Elektor never rests on its laurels! It has always been the best and likely always will be. One minor glitch; the ink seems to rub off on my sweaty palms! Oh, well.

Anyway, down to business. In the "Start Here" guide in April 2004, the issue of through-hole plating for hobbyists is discussed. There is an easy method I use that I find invaluable.

Multicore make a system called "Copperset". This is intended for repairing damaged boards, but is just as useful for DIY through-hole plating. Although the kit is (too) expensive, it is very easy to improvise the tools and just buy the bail bars. Essentially, the system consists of tiny copper tubes filled with solder. These are placed into a hole and snapped off with a special tool (they are scored for 1.6mm thickness boards). The tubes (called bail bars) are £23.81 at Farnell (item 463-929) for 500. That's a lot of holes.

Another special tool is then used to splay out the solder over the ends of the hole and push the sides of the bail into the board. When soldered, the tube becomes a neat, plated hole! All that is then required is to remove the excess solder from it with solder wick.

The 'special tools' I use and my method are as follows:

Tools:

1. Pentel 1-mm automatic pencil, the old mustard-coloured type with a fixed metal nib.
2. Small centre-punch with the tip filed flat.
3. 0.85mm carbide drill bit
4. Desoldering wick

Method:

1. Insert a row of bails into the Pentel
2. One click should protrude exactly one length of bail.
3. Drill holes for plating with the 0.85mm bit.
4. Insert the bail into the hole and snap off.
5. Place the board against a flat metal surface.
6. Use the centre-punch to splay out the top of the bail.
7. Solder top and bottom of bail to surrounding pad.
8. Remove excess solder from hole with wick

Using this method, I have plated many holes for circumstances where the top leads of a component are unavailable but need soldering, usually under big capacitors, power sockets or D-connectors. I have not yet (touch wood) had a single failure. Part of the pleasure I derive from electronics is producing an item that looks professional. This system gives that result at a low cost. I hope this information is of use to your readers.

Rick Fox.

Thanks Rick for your extensive contribution which is printed full length here because I'm sure it contains valuable information for many of our readers.

Serial DLL Dear people at Elektor, I am experimenting with the serial port on my PC. I built up the Com Port Tester from the March 2003 issue and downloaded the associated DLL from your website. I noticed that the DLL does not have a START BIT function. Is there a reason for this? If I required a start bit in my protocol how would I generate it using your DLL, or would I have to add a function and recompile the DLL?

Michael (by email)

To comply with the serial communication protocol, the hardware will automatically transmit a start bit, hence a separate button is not required.

Can I build this? Dear Elektor, can I please have some information about pacemakers, or indeed anything about heart beat measurement? I am currently doing a project and seeking information on how to build a pacemaker.

Wei Hing (by mail)

Please, don't even dream of building your own pacemaker, as we would like to see you continue reading our magazine. We appreciate your curiosity but really, this one is best left to the experts.

Display advice Hello, just a note that might help others! 7 segment displays as used in the Digital Alarm Clock in the February 2004 edition are listed as LTS4301E (Lite-on) these are very hard to find unless you want 500 of them. However, Viewcom, who advertise on page 73 have the equivalent in stock under the part number HD1107O or HD 1107G. Hope this is of some use to others.

Bob Tavener

Thanks Bob, as you can see the word is being passed on.

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